

End of Result Set

L1: Entry 1 of 1

File: USPT

Jan 27, 1998

US-PAT-NO: 5712985

DOCUMENT-IDENTIFIER: US 5712985 A

TITLE: System and method for estimating business demand based on business influences

DATE-ISSUED: January 27, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP. CODE	COUNTRY
Lee; Michael D.	Albuquerque	NM	87124	
Fields; Randall K.	Park City	UT	84060	
Pond; Jamie T.	Salt Lake City	UT	84109	
Tondevold; Barrire K.	Murray	UT	84123	

APPL-NO: 08/ 542847 [PALM]

DATE FILED: October 13, 1995

PARENT-CASE:

RELATED APPLICATION This application is a continuation in part of application Ser. No. 08/023,111, filed on Feb. 26, 1993, now U.S. Pat. No. 5,459,656 entitled BUSINESS DEMAND ESTIMATION SYSTEM, incorporated by referenced herein, which is a continuation in part of application Ser. No. 07/808,982, filed on Dec. 17, 1991, entitled PRODUCT DEMAND SYSTEM AND METHOD which is a continuation application of Ser. No. 07/406,069, filed on Sep. 12, 1989, entitled PRODUCT DEMAND SYSTEM AND METHOD, all of which are commonly owned by the assignee.

INT-CL: [06] G06 F 17/60

US-CL-ISSUED: 395/207; 395/210, 395/208, 364/468.01, 364/468.02, 364/468.03
 US-CL-CURRENT: 705/1, 700/95, 700/96, 700/97, 705/10, 705/8

FIELD-OF-SEARCH: 395/208, 395/210, 395/207, 364/468.01, 364/468.02, 364/468.03

PRIOR-ART-DISCLOSED:

U. S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>4141069</u>	February 1979	Fox	364/493
<input type="checkbox"/> <u>5111391</u>	May 1992	Fields et al.	395/209
<input type="checkbox"/> <u>5224034</u>	June 1993	Katz et al.	395/207
<input type="checkbox"/> <u>5255181</u>	October 1993	Chapman et al.	395/208
<input type="checkbox"/> <u>5287267</u>	February 1994	Jayaraman et al.	395/210
<input type="checkbox"/> <u>5299115</u>	March 1994	Fields et al.	395/210
<input type="checkbox"/> <u>5440480</u>	August 1995	Costanza	395/208
<input type="checkbox"/> <u>5446890</u>	August 1995	Renslo et al.	395/600
<input type="checkbox"/> <u>5459656</u>	October 1995	Fields et al.	395/207
<input type="checkbox"/> <u>5615109</u>	March 1997	Eder	395/207

OTHER PUBLICATIONS

STSC Inc.; Mar. 16, 1987. Acc. #00152990, File 621.
 "Optimal production planning . . . " by Bartmann, D.; Oct. 1983 Acc. #02301025 file #2.

ART-UNIT: 241

PRIMARY-EXAMINER: Hayes; Gail O.

ASSISTANT-EXAMINER: Shingala; Gita

ATTY-AGENT-FIRM: Fenwick & West LLP

ABSTRACT:

A demand forecasting and production scheduling system and method creates production schedules for various business items describing a forecasted demand for the business items in a number of future time intervals. The system includes a computer managed database of various profiles, including a base profile for each business item, and a number of influence profiles. The profiles describe variations in demand for the business item in a number of time intervals. The base profile describes an underlying level of demand for a business item that is anticipated for the business item absent any influencing factors, such as promotional sales, holidays, weather variations, and the like. The variations in demand for the business item due to such influence factors are stored in the database as influence profiles. The influence profiles may be either standard, percentage, or seasonal. The forecasted demand for a business item in a number of future time intervals is determined by selective combination of the base profile for the business item and any number of influence profiles. The forecasted demand is stored in the database in a forecast profile. From the forecast profile a production schedule is created, and the business item provided according to the production schedule. Actual demand for the business item is monitored and stored. The variation between actual demand and the forecasted demand is used to update the base and influence profiles. From the updated base and influence profiles the forecasted demand is redetermined, and the production schedule updated accordingly.

48 Claims, 6 Drawing figures

End of Result Set

L3: Entry 1 of 1

File: USPT

May 13, 1997

US-PAT-NO: 5630070

DOCUMENT-IDENTIFIER: US 5630070 A

TITLE: Optimization of manufacturing resource planning

DATE-ISSUED: May 13, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dietrich; Brenda L.	Yorktown Heights	NY		
Wittrock; Robert J.	Ossining	NY		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
International Business Machines Corporation	Armonk	NY			02	

APPL-NO: 08/ 108014 [PALM]

DATE FILED: August 16, 1993

INT-CL: [06] G06 F 17/60

US-CL-ISSUED: 395/208

US-CL-CURRENT: 705/8

FIELD-OF-SEARCH: 364/401, 364/402, 304/41R, 304/402, 395/207-208, 395/210

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>4646238</u>	February 1987	Carlson, Jr. et al.	364/403
<input type="checkbox"/> <u>4744026</u>	May 1988	Vanderbei	364/402
<input type="checkbox"/> <u>4744027</u>	May 1988	Bayer et al.	364/402
<input type="checkbox"/> <u>4885686</u>	December 1989	Vanderbei	364/402
<input type="checkbox"/> <u>4924386</u>	May 1990	Freedman et al.	364/402
<input type="checkbox"/> <u>5053970</u>	October 1991	Kurihara et al.	364/468
<input type="checkbox"/> <u>5093794</u>	March 1992	Howie et al.	364/468
<input type="checkbox"/> <u>5101352</u>	March 1992	Rembert	364/401
<input type="checkbox"/> <u>5140537</u>	August 1992	Tullis	364/578
<input type="checkbox"/> <u>5148370</u>	September 1992	Litt et al.	364/468
<input type="checkbox"/> <u>5155679</u>	October 1992	Jain et al.	364/402
<input type="checkbox"/> <u>5172313</u>	December 1992	Schumacher	364/401
<input type="checkbox"/> <u>5185715</u>	February 1993	Zikan et al.	364/807
<input type="checkbox"/> <u>5216593</u>	June 1993	Dietrich et al.	364/402

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0364090	August 1989	EP	
0517953A2	December 1991	EP	

OTHER PUBLICATIONS

"Molp with an Interactive Assessment of a Piecewise Linear Utility Function", Jacquet-Lagreze et al., European Journal of Operational Research, vol. 31, 1987, pp. 350-357.

"A Hybrid Approach to Multi-Objective Linear Optimization", Poh et al., Journal of the Operational Research Society, vol. 41, No. 11, 1990, pp. 1037-1048.

"A Weighted-Gradient Approach to Multi-Objective Linear Programming Problems Using the Analytic Hierarchy Process", Arbel, Mathematical and Computer Modelling, vol. 14, No. 4/5, 1993, pp. 27-39.

"Determination of the Crop Mix of a Rubber and Oil Plantation--A Programming Approach", Tan et al., European Journal of Operational Research, vol. 34, 1988, pp. 362-371.

ART-UNIT: 241

PRIMARY-EXAMINER: Hayes; Gail O.

ASSISTANT-EXAMINER: Kyle; Charles

ATTY-AGENT-FIRM: Perman & Green

ABSTRACT:

A method for constrained material requirements planning, optimal resource allocation, and production planning provides for an optimization of a manufacturing process by designating the amounts of various manufactured products to be produced, which products include both end products as well as subassemblies to be employed in the manufacture of one or more of the end products. In order to accomplish the optimization, the method employs an objective function such as the maximization of income in a situation wherein there are limitations on the inventory of raw materials and tools to be employed in the manufacturing process. Data describing

elemental steps in the manufacturing process for the production of each end product, as well as the quantity or demand for each end product which is to be supplied, are presented as a set of linear mathematical relationships in matrix form to be inserted in a computer which determines the optimum number of each end product in accordance with an LP optimization algorithm. The matrix contains bill of material data, and various constraints such as a constraint on the sum of products shipped and used as subassemblies, and constraints based on inventory, on available time for use of resources such as tools, and on inventory left over from an early production run for a later run.

23 Claims, 10 Drawing figures